

ADDITIONAL NOTES ON THE GENUS VERBENA. VI

Harold N. Moldenke

VERBENA [Dorst.] L.

Additional bibliography: Bonstedt, Pareys Blumengärtn., ed. 1, 273--277. 1932; Potztal in Encke, Pareys Blumengärtn., ed. 2, 2: 439. 1960; Maatsch in Encke, Pareys Blumengärtn., ed. 2, 2: 439--442. 1960; F. A. Barkley, List Ord. Fam. Anthoph. 75, 76, 163, 171, & 219. 1965; S. V. Ramaswami, Study Flow. Pl. Bangalore [thesis] 1018, 1019, & 4466. 1966; Rickett, Wild Fls. U. S. 2 (2): 461--465, 471, & 685--686. 1967; Lehr, Bull. Torrey Bot. Club 94: 544. 1967; Moldenke, Phytologia 15: 466, 468, & 478--495 (1968) and 16: 48--56. 1968; Anon., Plants for Seashore [2]. n.d.

Barkley (1965) includes Helleranthus among the valid genera of Verbenaceae.

VERBENA BIPINNATIFIDA Nutt.

Additional bibliography: Rickett, Wild Fls. U. S. 2 (2): 462, 463, & 685, pl. 170. 1967; Moldenke, Phytologia 15: 486--487 (1968) and 16: 48. 1968.

Additional illustrations: Rickett, Wild Fls. U. S. 2 (2): pl. 170 [in color]. 1967.

VERBENA BRACTEATA Lag. & Rodr.

Additional bibliography: Rickett, Wild Fls. U. S. 2 (2): 462, 463, & 685, pl. 170. 1967; Moldenke, Phytologia 15: 488--490 & 493 (1968) and 16: 50. 1968.

Additional illustrations: Rickett, Wild Fls. U. S. 2 (2): pl. 170 [in color]. 1967.

Mason (1957) tells us that this species is "common near water in marshes and floodlands of valleys and foothills throughout California". Macoun (1884) describes it as growing "On dry prairies apparently very rare. Collected on the high prairie north of the Saskatchewan near the forks of the Red Deer and Saskatchewan rivers. August 8th, 1879. (David Macoun.)"

VERBENA BRASILIENSIS Vell.

Additional bibliography: Rickett, Wild Fls. U. S. 2 (2): 462, 463, & 685, pl. 170. 1967; Moldenke, Phytologia 15: 490--491. 1968.

Additional illustrations: Rickett, Wild Fls. U. S. 2 (2): pl. 170 [in color]. 1967.

The color illustration labeled as Verbena "littoralis" by Rickett (1967) is actually a picture of V. brasiliensis Vell.

VERBENA CANADENSIS (L.) Britton

Additional & emended synonymy: Verbena aubletia var. drummondii Lindl. ex Bonstedt, Pareys Blumengärtn., ed. 1, 2: 273. 1932.

Verbena canadensis cv. "Drummondii" Maatsch in Encke, Pareys Blumengärtn., ed. 2, 2: 440. 1960. *Verbena canadensis* cv. "Compacta" Maatsch in Encke, Pareys Blumengärtn., ed. 2, 2: 440. 1960.

Additional bibliography: Bonstedt, Pareys Blumengärtn., ed. 1, 2: 273. 1932; Maatsch in Encke, Pareys Blumengärtn., ed. 2, 2: 440. 1960; Rickett, Wild Fls. U. S. 2 (2): 462, 463, & 685, pl. 170. 1967; Moldenke, Phytologia 15: 492--493 (1968) and 16: 52. 1968.

Additional illustrations: Maatsch in Encke, Pareys Blumengärtn., ed. 2, 2: 440. 1960; Rickett, Wild Fls. U. S. 2 (2): pl. 170 [in color]. 1967.

Bonstedt (1932) records the German common name, "aubletien Eisenkraut", for this plant. Maatsch (1960) states that the species was introduced into cultivation in 1774, and cites as an illustration "B. C. 3: 3447", referring, apparently, to L. H. Bailey's Cyclopaedia. He describes two cultivars as follows: "cv. 'Drummondii'. Krone 2 cm breit, mit weichhaariger Röhre, schwachwohrliechend, lila-blau. -- B. R. 10: 1925; wichtig cv. 'Compacta'. Blüten karminrosa. Pflanzen 40 cm hoch, dicht buschig, reichblühend." He gives as cultural notes for the species: "Dieser Art ist wegen ihrer Reichblütigkeit, langen Blütezeit und Gemütsamkeit in bezug auf den Boden für grössere und kleinere Anlagen gleich zu empfehlen, auch für grössere Flächen gut geeignet. Anzucht und Kultur wie bei voriger."

VERBENA CANESCENS H.B.K.

Additional bibliography: Rickett, Wild Fls. U. S. 2 (2): 464 & 685. 1967; Moldenke, Phytologia 15: 490 & 493--494. 1968.

VERBENA CAROLINA L.

Additional bibliography: Moldenke, Phytologia 15: 494--495 (1968) and 16: 48. 1968.

VERBENA CAROLINA f. ALBIFLORA Moldenke

Additional bibliography: Moldenke, Phytologia 15: 495 (1968) and 16: 48. 1968.

VERBENA CHILENSIS Moldenke

Additional bibliography: Moldenke, Phytologia 13: 188--189 (1966) and 16: 53. 1968.

VERBENA CILIATA Benth.

Additional bibliograpny: Rickett, Wild Fls. U. S. 2 (2): 462 & 685. 1967; Moldenke, Phytologia 15: 484 (1968) and 16: 48--49 & 54. 1968.

VERBENA CILIATA var. LONGIDENTATA Perry

Additional bibliography: Moldenke, Phytologia 15: 486 (1968) and 16: 48--49. 1968.

VERBENA CILIATA var. PUBERA (Greene) Perry

Additional bibliography: Moldenke, Phytologia 15: 486 (1968)

and 16: 49. 1968.

VERBENA CLOVERAE Moldenke

Additional bibliography: Rickett, Wild Fls. U. S. 2 (2): 464 & 685. 1967; Moldenke, Phytologia 16: 49. 1968.

xVERBENA CORRUPTA Moldenke

Additional synonymy: Verbena phlogiflora x chamaedryfolia Bonstedt, Pareys Blumengärtn., ed. 1, 2: 274. 1932.

Additional bibliography: Bonstedt, Pareys Blumengärtn., ed. 1, 2: 274. 1932; Moldenke, Phytologia 11: 454. 1965.

According to Bonstedt (1932) and other horticulturists, this hybrid is the wellknown cultivar known in the trade as "Defiance".

VERBENA DELTICOLA Small

Additional bibliography: Moldenke, Phytologia 15: 493 (1968) and 16: 51. 1968.

VERBENA HALEI Small

Additional bibliography: Rickett, Wild Fls. U. S. 2 (2): 464 & 685. 1967; Moldenke, Phytologia 16: 56. 1968.

VERBENA HASTATA L.

Additional & emended bibliography: Holmgren & Reveal, U. S. Forest Serv. Res. Paper INT.32: [Checklist Vasc. Fl. Intermont. Reg.] 91. 1966; Rickett, Wild Fls. U. S. 2 (2): 464, 465, & 686, pl. 171. 1967; Cody, Ind. Sem. 1967: 18. 1967; Shinn, Univ. Kans. Sci. Bull. 46: 790, 886, 887, & 928. 1967; Moldenke, Phytologia 14: 277, 284--285, 298, & 300. 1967; Moldenke, Résumé Suppl. 15: 1 & 2. 1967; C. L. Porter, Tax. Flow. Pl., ed. 2, 394 & 395, fig. 348. 1967; Moldenke, Phytologia 16: 50 & 56. 1968.

Additional illustrations: Bischoff, Handb. Bot. Term. 1: pl. 22, fig. 651. 1830; G. H. Buek, Wild Fls. Am. 1 (1): pl. 9 [in color]. 1894; Martin & Bradley, Seed Ident. Man. fig. 235 & 260. 1961; Marie-Victorin, Fl. Laurent., ed. 2, fig. 170. 1964; C. L. Porter, Tax. Flow. Pl., ed. 2, 395, fig. 348. 1967; Rickett, Wild Fls. U. S. 2 (2): pl. 171 [in color]. 1967.

Fernald refers to this species as "rare" in Aroostock County, Maine. Fowler (1878, 1885) says that it grows in waste ground, but is not common, in New Brunswick; he cites Fowler s.n. from Kouchibouguac, Hay s.n. from Norton and Tobique, and Wetmore s.n. from Andover and Saint George. Macoun (1884) says "Chiefly in waste grounds and in low pastures along streams. Common from Nova Scotia, New Brunswick and Quebec westward throughout Ontario to the Sault Ste. Marie. (Macoun.) Rainy River, Ont. (Dawson.) Abundant on Lake Winnipeg. (J. M. Macoun.) Canada to the Saskatchewan. (Richardson.) Low alluvial soils Northwest coast (Douglas.) Spellimacheen, B. C. (Hill.)" Carleton (1959) records the additional common name, "blue American vervain", for this species.

Mason (1957) tells us that the species often forms large con-

spicuous colonies in wet land of the Central Valley of California, and the Sierra Nevada foothills to eastern Shasta County [I suspect that this is var. scabra to which he here refers].

Shinn (1967) records the fact that the females of the bees, Calliopsis [Verbenapis] andreniformis and C. nebraskensis, gather pollen from the flowers of this species.

Wunderlin (1966) records Verbena hastata from Carroll County, Illinois; Hartley (1966) says that it grows on shores, in marshy moist meadows, and in low pastures, "common throughout the Driftless Area". Mohlenbrock & Voigt (1965) cite Mohlenbrock 12418 from Illinois. Boivin (1966) records the species from British Columbia. Seed from which the Wagenitz collection, cited below, was grown was obtained originally from a French garden.

On page 23 of the Bischoff (1849) reference in the bibliography of this species the figure number is given as "561" in error.

Due to some apparently unintentional clerical error, material of this species has been distributed in certain herbaria under the name Viola hastata L. On the other hand, the W. Deane s.n. [Aug. 10, 1890], distributed as Verbena hastata, is actually xV. engelmannii Moldenke, while W. D. Forbes 143 is V. urticifolia L.

Additional citations: ONTARIO: Bruce Co.: W. R. Watson 3004 (Ws). MAINE: Aroostock Co.: Fernald s.n. [St. Francis, Aug. 5, 1893] (Ms--80933). Piscataquis Co.: Fernald 296 (Ms--80932). NEW HAMPSHIRE: Coös Co.: W. Deane s.n. [July 16, 1920] (Ms--80931); Pease 24195 (Ms--77560). VERMONT: Rutland Co.: Goodale s.n. [29 August 1925] (Ms--30789), s.n. [5 Aug. 1926] (Ms--48539), s.n. [6 Aug. 1926] (Ms--48538). MASSACHUSETTS: Barnstable Co.: Elwell s.n. [Aug. 24, 1891] (Ms--50457); Goodale s.n. [11 Aug. 1934] (Ms--77596). Franklin Co.: Goodale & Markert s.n. [11 Aug. 1930] (Ms--59634); Goodale, Markert, & Piper s.n. [27 July 1929] (Ms--55637); Markert s.n. [27 Aug. 1931] (Ms--64869). Hampden Co.: Dorwart s.n. [18 July 1932] (Ms--68337); Goodale & Markert s.n. [25 July 1930] (Ms--59631); Markert s.n. [12 Aug. 1930] (Ms--59633); F. C. Seymour 511 (Ms--51406). Hampshire Co.: Elwell s.n. [July 5, 1889] (Ms--50456); Goodale s.n. [31 July 1926] (Ms--48451), s.n. [July 27, 1927] (Ms--51830), s.n. [22 August 1928] (Ms--53967); Goodale & Markert s.n. [8 July 1930] (Ms--59629), s. n. [25 July 1930] (Ms--59630); Goodale, Markert, & Piper s.n. [13 July 1929] (Ms--55712), s.n. [18 July 1929] (Ms--55640), s.n. [27 July 1929] (Ms--55636); Goodale, Potsubay, & Saint John s.n. [21 August 1931] (Ms--64874); R. N. Hosford s.n. [July-August 1932] (Ms--69431); Markert s.n. [9 July 1930] (Ms--59628); Potsubay s.n. [6 July 1932] (Ms--69095), s.n. [25 July 1932] (Ms--69087); C. H. K. Sanderson 1956 (Ms--72456). Middlesex Co.: W. Deane s.n. [Cambridge, Sept. 4, 1883] (Ms--80928). Worcester Co.: Goodale & Markert s.n. [12 Aug. 1930] (Ms--59632); Goodale, Markert, & Piper

s.n. [2 Aug. 1929] (Ms--55639); Goodale, Potsubay, & Saint John
s.n. [31 July 1931] (Ms--64871), s.n. [10 Aug. 1931] (Ms--64872,
 Ms--64873); R. H. Piper s.n. [11 September 1928] (Ms--54546), s.
n. [12 Aug. 1929] (Ms--55638), s.n. [21 July 1930] (Ms--59627),
s.n. [2 August 1931] (Ms--64870). CONNECTICUT: Hartford Co.:
Ahles 65293 (Ms--51737). NEW YORK: Dutchess Co.: Ahles 64431
 (Ms--51384); Poppey s.n. [Aug. 3rd, '74] (Ms--58352). Suffolk
 Co.: M. Hopkins s.n. [17 Aug. 1929] (Ms--57735). PENNSYLVANIA:
 Philadelphia Co.: E. Durand s.n. [near Philad.] (Ms--30790).
 VIRGINIA: Smyth Co.: J. K. Small s.n. [July 30, 1892] (Ms--30791).
 ILLINOIS: Tazewell Co.: V. H. Chase 3229 (Du--367171). SOUTH
 DAKOTA: Lawrence Co.: F. L. Bennett 1093, in part (Du--347239).
 CULTIVATED: Germany: Wagenitz s.n. [Mus. Bot. Berol. Gartenherb.
 W.382] (Rf).

VERBENA HASTATA f. ALBIFLORA Moldenke

Additional synonymy: Verbena hastata var. alba Bergmans ex L.
 H. Bailey, Man. Cult. Pl., ed. 2, 840 & 1113. 1949.

Additional bibliography: L. H. Bailey, Man. Cult. Pl., ed. 2,
 840 & 1113. 1949; Moldenke, Phytologia 11: 465. 1965; Moldenke,
 Résumé Suppl. 15: 24. 1967.

VERBENA HASTATA var. SCABRA Moldenke

Additional bibliography: Moldenke, Phytologia 13: 200. 1966.

Additional citations: IDAHO: Owyhee Co.: J. M. Johnson 254
 (Du--458528). WASHINGTON: Yakima Co.: Kruckeberg 2545 (Ms--
 34293).

VERBENA HERTERI Moldenke

Additional bibliography: Moldenke, Phytologia 13: 249. 1966.

Additional citations: URUGUAY: Herter 979 [Herb. Herter 82378]
 (Ws--isotype).

VERBENA HIRTA Spreng.

Additional bibliography: Moldenke, Phytologia 14: 285. 1967.

The Rambo 56783, distributed as V. hirta, is actually V. rig-
ida Spreng.

Additional citations: BRAZIL: Paraná: L. S. Smith Bras.63a
 (Ac).

VERBENA HIRTA var. GRACILIS Dusén

Additional bibliography: Moldenke, Phytologia 14: 285. 1967.

Additional citations: BRAZIL: Rio Grande do Sul: Rambo 51940
 (B).

VERBENA HISPIDA Ruiz & Pav.

Additional & emended bibliography: Moris, Ann. Stor. Nat. 4:
 39 & 59--60. 1830; Hieron., Bol. Acad. Nac. Cienc. Córdoba 4: 408.
 1881; H. Fischer, Beitr. Vergl. Morphol. Pollenk. 46. 1890; Anon.,

U. S. Dept. Agr. Bot. Subj. Index 15: 14361. 1958; Meyer & Weyrauch, *Guia Excurs. Biol. Tucum.* 64 & 123. 1966; Moldenke, *Phytologia* 14: 285--286. 1967.

The flowers on R. F. Steinbach 84 are described as "flor violeta vivo base exterior púrpura rojiso".

Additional citations: BOLIVIA: Cochabamba: R. F. Steinbach 84 (Ws). CULTIVATED: Germany: Wagenitz s.n. [*Mus. Bot. Berol. Gartenherb. W.383*] (Rf).

VERBENA HOOKERIANA (Covas & Schnack) Moldenke

Additional bibliography: Anon., U. S. Dept. Agr. Bot. Subj. Index 15: 14361. 1958; Moldenke, *Phytologia* 14: 286. 1967.

Additional citations: ARGENTINA: Catamarca: Brizuela 978 (Ms--34297).

VERBENA HUMIFUSA Cham.

Additional bibliography: Moldenke, *Phytologia* 13: 250. 1966.

Additional citations: BRAZIL: Rio Grande do Sul: Rambo 48804 (B), 49013 (B), 51272 (B), 57298 (B).

xVERBENA HYBRIDA Voss

Additional bibliography: Lem. & Chauv., *Traité Cult. Geran.* 1--152. 1842; Lecoq, *Ann. Scient. Litt. & Indust. Auverg.* 25: 145--157. 1852; E. S. Rand, *Trans. Mass. Hort. Soc.* 1859: 42--49. 1860; Chaté, *Des Verv.* 1--63. 1865; Duthie, *Fl. Upper Gang. Plain* 2: 218. 1911; L. H. Bailey, *Man. Cult. Pl.*, ed. 1, pr. 1, 628, 629, & 848 (1924), pr. 2, 628, 629, & 848. 1925; McCallan, *Flow. Gard. Calend.* 18. 1927; Bonstedt, *Pareys Blumengärt.*, ed. 1, 2: 273--274. 1932; I. N. Anderson, *Nat. Hort. Mag.* 12: 72. 1933; Emsweller & Blodgett, *Proc. Amer. Soc. Hort. Sci.* 35: 822--824. 1938; L. H. Bailey, *Man. Cult. Pl.*, ed. 1, pr. 3, 628, 629, & 848 (1938), pr. 4, 628, 629, & 848 (1944), and ed. 2, 840, 841, & 1113. 1949; Anon., U. S. Dept. Agr. Bot. Subj. Index 15: 14361. 1958; Karrer, *Konstit. & Vork. Organ. Pflanzenst.* 684. 1958; Maatsch in Encke, *Pareys Blumengärtn.*, ed. 2, 2: 440--441 & opp. 352. 1960; Ohwi, *Fl. Jap.* 763. 1965; Sorin, *Jard. France* [*Bull. Soc. Nat. Hortic. France*] 1966: 105--107. 1966; J. G. Barton in Novák, *Pict. Encycl. Pl. & Fls.* 403, fig. 801. 1966; Schwanitz, *Orig. Cult. Pl.* 92. 1966; Berrall, *Garden* 44, 279, & 326. 1966; Queen, *Madman Theory* 134. 1966; Behm, *Fl. Um Uns* 50, 51, & 287. 1966; Pop, *Bot. Gard. Cluj* 12. 1966; M. Raymond, *Ann. Résult. Jard. d'Essai Jard. Bot. Montreal* 1965: 85 (1966) and 1966: 61 & 70. 1967; Rickett, *Wild Fls. U. S.* 2 (2): 462 & 686. 1967; Moldenke, *Phytologia* 14: 286 & 293. 1967; Schling, *Seedsman Cat. Spring* 1967 Anniv. Ed. 20. 1967; Anon., *Country Shopper* 7 (7): 14. 1967; Moldenke, *Résumé Suppl.* 15: 15. 1967; J. F. Williamson, *Sunset West. Gard. Book*, new ed., 437. 1967; Anon., *Rutgers Univ. Dept. Hort. & Forest. Veget.-Flow. Open House F.4.* 1967; Zukowski, *Fl. Polska* 11: 65. 1967.

Additional illustrations: Chaté, *Des Verv.* front. pl. 1865; Bonstedt, *Pareys Blumengärtn.*, ed. 1, 2: 274 & opp. 274 [in color].

1932; Maatsch in Encke, Pareys Blumengärtn., ed. 2, 2: opp 352 [in color]. 1960; Sorin, Jard. France [Bull. Soc. Nat. Hortic. France] 1966: 106 & 107. 1966; J. G. Barton in Novák, Pict. Encycl. Pl. & Fls. fog. 801. 1966.

Ohwi (1965) records the Japanese common name "bijozakura" for this plant. According to "The Country Shopper" (1967) the "White Verbena" form of this taxon indicates "pray for me in my absence" in the so-called "language and sentiment of flowers".

Williamson (1967) lists the horticultural varieties "Amethyst", with sky-blue flowers, and "Miss Susie", with double salmon-pink flowers. Under V. peruviana -- but probably in error -- he lists "Cherry Pink" and "Princess Gloria", both with salmon-toned flowers, and says that the two latter, along with "Appleblossom", are especially common in southern California gardens and in desert areas. Raymond (1966, 1967) lists as cultivated in Montreal the following additional cultivars: "Bannière Suisse", "Compact", "Olympiamischung", "Royal Blue White-eye", "Scarlet", and "Torrid". The plant is referred to by Duthie (1911) as V. chamaedryfolia Juss. According to Zukowski (1967) it is both cultivated and escaped in Poland.

Additional German common names for this plant are "aurikelblütigen Verbenen", "Blumisten-Eisenkraut", and "Garten-Eisenkraut". According to Maatsch (1960) and other horticulturists, the cultivar known as "Defiance" is actually the simple hybrid between V. peruviana and V. phlogiflora which I have designated as xV. corrupta Moldenke. These authorities also maintain that the "aurikelblütigen Verbenen" [V. hybrida var. auriculiflora Hort., etc.] represent a straight hybrid between V. phlogiflora and V. platensis.

Maatsch (1960) gives the following interesting account of this plant: "V. x hybrida Voss. Garten-Verbene. Juli--September. Aus Kreuzungen verschiedener Arten sind unsere heutigen Gartenverbenen hervorgegangen. Zu den Stammeltern werden gerechnet: V. peruviana, die die roten Farben brachte, V. phlogiflora und V. incisa, die rosa-purpurfarbene Töne lieferten, und die weisse V. platensis, die wohl den Duft einbrachte. Die Verbindung von V. peruviana x phlogiflora brachte mit der Sorte 'Défiance' das Scharlachrot ins Sortiment; V. phlogiflora x platensis brachte das weisse Auge der 'aurikelblütigen' Verbenen. Diese Hybriden sind ihrer Herkunft nach staudig-halbstrauchig, werden aber in Kultur heute kaum anders als einjährig aus Samen gezogen. Als in früheren Jahrzehnten die Durchzüchtung noch zu wünschen übrig liess, wurden ausgesuchte Mutterpflanzen durch Stecklinge vermehrt, wie es etwa heute bei Ageratum noch geschieht. Dem Wuchs nach sind bis 45 cm hoch wachsende Sorten der Hybrida- und Mammut-Klasse von den niedrigen der Compacta-Klasse oder den amerikanischen Buschverbenen zu unterscheiden, die etwa 20--25 cm erreichen. Der Wuchs ist bei den hohen Sorten mehr aufrecht, bei den niedrigen niederliegend-aufstrebend. Die Pflanzen sind mehr oder weniger mit ziemlich steifen, grauen Haaren

besetzt. Die Blätter sind gestielt, länglich oder eiförmig-länglich, stumpf, gezähnt oder am Grunde gelappt. Die Blüten erscheinen in reich blühenden, doldenartigen, dichten Ähren in der verschiedensten Farben von Weiss über Rosa und Lachs zu Scharlachrot und Blau, mit oder ohne Auge. -- B. C. 3: 3446; Parey I. 2: 274 (farbig). (K) Mit *Phlox drummondii* gehören die Verbenen zu den wertvollsten Sommerblumen für flächige Pflanzungen, für die sie unentbehrlich sind. Leichte Kultur, Anspruchslosigkeit und langanhaltende, reiche Blüte zeichnen sie aus. Der Standort soll möglichst sonnig sein, schon in leichtem Schatten lässt die Blüte nach. Im Laufe des Sommers empfiehlt es sich, durch flüssige Nachdüngung oder Kopfdüngung mit Volldünger die für reiche Blüte notwendige Ernährung zu sichern. Anzucht aus Samen, entweder ab März unter Glas, dann in kleine Töpfe (Torftöpfe) pikierten und temperiert, später im Kasten hell kultivieren, um im Mai blühende kleine Topfpflanzen für den Verkauf bereit zu haben, oder Aussaat im April in den Kasten und direkt von hier auspflanzen, dann ist jedoch die Blüte entsprechend erst ab Juli zu erwarten. 1 g Samen enthält etwa 350 Korn, auch hier verläuft die Keimung so unregelmässig wie bei den Arten nach etwa 2--3 Wochen. Das Saatgut bleibt nur 2 Jahre keimfähig."

Additional citations: CULTIVATED: New York: H. N. Moldenke 24323 (Ac).

xVERBENA ILLICITA Moldenke

Additional bibliography: Moldenke, *Phytologia* 14: 286. 1967; Moldenke, *Résumé Suppl.* 15: 1. 1967; Rickett, *Wild Fls. U. S.* 2 (2): 464. 1967.

Additional citations: ILLINOIS: County undetermined: Eggert s.n. [Mississippi Valley in Ills., 14 August 1875] (Ms--30843, Ms--30844).

VERBENA INCISA Hook.

Additional bibliography: L. H. Bailey, *Man. Cult. Pl.*, ed. 1, pr. 1, 628, 629, & 848 (1924) and pr. 2, 628, 629, & 848. 1925; Bonstedt, *Pareys Blumengärtn.*, ed. 1, 2: 274. 1932; L. H. Bailey, *Man. Cult. Pl.*, ed. 1, pr. 3, 628, 629, & 848 (1938) and pr. 4, 628, 629, & 848. 1944; Maatsch in Encke, *Pareys Blumengärtn.*, ed. 2, 2: 440 & 441. 1960; Moldenke, *Phytologia* 13: 250. 1966.

Woolston describes this plant as an erect or decumbent herb, 30--60 cm. tall, with scarlet flowers, growing in cultivated ground, and called "ivoti-la-novia". Maatsch (1960) describes it as follows: "Südbrasilien, Paraguay, Nordargentinien. Sommer bis Herbst. Ähnlich *V. peruviana* and *V. phlogiflora*, aber mit viel tiefer eingeschnittenen Blättern. Ganze Pflanze haarig-flaumig. Stengel aufsteigend. Äste aufrecht. Doldenköpfchen flach. Kelch 1mal so lang wie die Deckblätter, kurz behaart. Kronröhre 3mal so lang wie der Kelch. Kronsaum gross, rosa-purpurn, unterseits heller, Abschnitte verkehrt-eiförmig, tief ausgerandet. -- 1826. B. M. 3628; B. C. 3: 3445."

Additional citations: PARAGUAY: Woolston 731 (S). ARGENTINA:

Catamarca: Rodriguez Vaquero 907 (Ms--34333). Chaco: Aguilar 844 (Du--411423). Formosa: I. Morel 419 (Ms--34302). Tucumán: Monetti s.n. [Herb. Inst. Miguel Lillo 31354] (Du--317603).

VERBENA INTEGRIFOLIA Sessé & Moc.

Additional bibliography: Moldenke, *Phytologia* 11: 468. 1965; Moldenke, *Résumé Suppl.* 15: 3. 1967.

Additional citations: MEXICO: Guanajuato: A. R. Moldenke 1812 (Rf). Michoacán: A. R. Moldenke 1751 (Ac), 1762 (Rf). Nayarit: A. R. Moldenke 1643 (Rf).

VERBENA INTEGRIFOLIA f. ALBIFLORA Moldenke, *Résumé Suppl.* 15: 3, nom. nud. (1967), f. nov.

Haec forma a forma typica speciei corollis albis recedit.

This form differs from the typical form of the species in having white corollas.

The type of the form was collected by Andrew Ralph Moldenke (no. 1750) eighteen miles east of Zamora, Michoacán, Mexico, on June 20, 1967, and is deposited in my personal herbarium at Plainfield, New Jersey.

Citations: MEXICO: Michoacán: A. R. Moldenke 1750 (Z--type).

VERBENA INTERMEDIA Gill. & Hook.

Additional bibliography: Hieron., *Bol. Acad. Nac. Cienc. Córdoba* 4: 405. 1881; Lorentz & Niederlein, *Bot. Exoed. Rio Negro* 264. 1881; Anon., *U. S. Dept. Agr. Bot. Subj. Index* 15: 14361. 1958; Moldenke, *Phytologia* 14: 287. 1967.

VERBENA JORDANENSIS Moldenke

Additional bibliography: Moldenke, *Phytologia* 13: 204. 1966.

This plant has been collected in anthesis and fruit in November and December.

Material has been misidentified and distributed in herbaria by Rambo under the names "Timitocia chamaedryfolia (Cham.) Mold." and Timotocia chamaedryfolia (Cham.) Moldenke.

Additional citations: BRAZIL: Rio Grande do Sul: Rambo 49436 (B), 54015 (B), 54533 (B).

VERBENA LACINIATA (L.) Briq.

Additional synonymy: Verbena pulcherrima Hort. ex Bonstedt, *Pareys Blumergärtn.*, ed. 1, 2: 273, in syn. 1932.

Additional bibliography: Hieron., *Bol. Acad. Nac. Cienc. Córdoba* 4: [Sert. Sanjuan.] 68 (1881) and 4: 409. 1881; Lorentz & Niederlein, *Bot. Exped. Rio Negro* 266. 1881; H. Fischer, *Beitr. Vergl. Morphol. Pollenk.* 46--47. 1890; Jacks. in Hook. f. & Jacks., *Ind. Kew.*, pr. 1, 1: 877 (1893) and 2: 895, 1178, & 1179 1895; Bonstedt, *Pareys Blumergärtn.*, ed. 1, 2: 273. 1932; Anon., *Ind. Sem. Ofr. Canje Jard. Bot. Montev.* 8. 1935; Jacks. in Hook. f. & Jacks., *Ind. Kew.*, pr. 2, 1: 877 (1946) and 2: 895, 1178, & 1179 (1946) and pr. 3, 1: 877 (1960) and 2: 895, 1178, & 1179.

1960; Solbrig, Biol. Abstr. 47: 2870. 1966; Moldenke, Phytologia 14: 287 (1967) and 16: 48. 1968.

Bonstedt (1932) lists Verbena selloi Spreng. and V. geranii-folia Hort. as synonyms of this species. The former, however, is a valid species and the latter is a synonym of V. tenera Spreng. He also records the German common name "leberbalsamartiges Eisenkraut". It should be noted here that the Verbena selloi Spreng., Shuttleworthia selloi (Spreng.) Walp., Shuttleworthia selloi Walp., Shuttleworthia selloi Walp., and Schuttleworthia selloi Walp., included by me in the synonymy of Verbena laciniata in Phytologia 9: 389 (1963) should be deleted, as they all belong with the separate valid species V. selloi Spreng., which see.

The Herter 181a, misidentified and distributed as V. laciniata, is actually V. selloi Spreng.

VERBENA LASIOSTACHYS Link

Additional synonymy: Verbena prostrata Jepson ex H. L. Mason, Fl. Marshes Calif. 677, in syn. 1957.

Additional & emended bibliography: A. Gray, Syn. Fl. N. Am., ed. 1, 2 (1): 336 (1878) and ed. 2, 2 (1): 336. 1886; P. B. Kennedy, Annot. List Wild Fls. Calif. 112. 1917; Perry, Rhodora 38: 271-272. 1936; H. L. Mason, Fl. Marshes Calif. 677. 1957; Anon., U. S. Dept. Agr. Bot. Subj. Index 15: 14361. 1958; Moldenke, Phytologia 13: 251 (1966) and 14: 287. 1967; Moldenke, Résumé Suppl. 15: 2 & 15. 1967.

The L. S. Smith 2814 and DeWolf 802, distributed as typical V. lasiostachys, appear instead to represent var. septentrionalis Moldenke; I. L. Wiggins 1763 is V. robusta Greene; and R. F. Hoover 3812 is a mixture of var. scabrida Moldenke and V. abramsi Moldenke. The corollas on J. H. Thomas 3532 are said to have been "light-blue", while on his no. 10428 they were "lavender-purple". This collector found the plant growing in coastal scrub along with Achillea millefolium, Baccharis pilularis, Rubus ursinus, Scrophularia californica, Eriophyllum staechadifolium, Horkelia californica, Salix sp., and Lonicera involucrata. Its specific name is sometimes uppercased.

Mason (1957) states that the species is "very common throughout California", while Kennedy (1917) says it is found only "throughout the west and south" of the state.

Additional citations: CALIFORNIA: Monterey Co.: H. N. Moldenke 24270 (Rf). San Mateo Co.: J. H. Thomas 10428 (Du--512495). Santa Cruz Co.: J. H. Thomas 3532 (Du--385227).

VERBENA LASIOSTACHYS var. SCABRIDA Moldenke

Additional bibliography: Moldenke, Phytologia 14: 287. 1967.

R. F. Hoover 3812 appears to be a mixture with V. abramsi Moldenke.

VERBENA LASIOSTACHYS var. SEPTENTRIONALIS Moldenke

Additional bibliography: Moldenke, Phytologia 14: 287. 1967; Moldenke, Résumé Suppl. 15: 2 & 15. 1967.

Recent collectors have found this plant growing in meadows, at the edges of grassy springs on the sides of hills, and in dry open ground associated with Hypericum perforatum and Aira caryophyllea. The corollas are described as "blue" on Breedlove 4164 and on J. H. Thomas 2470, 3219, 4365, & 8132, and as "purple" on Dennis & Dennis 2255.

Additional citations: OREGON: Jackson Co.: Dennis & Dennis 2255 (Du--458541). CALIFORNIA: Los Angeles Co.: Granert s.n. [June 23, 1965] (Ac, Ws). Monterey Co.: Durham s.n. [Sept. 5, 1942] (Du--308962); Plaskett 142 (Ms--30815). Placer Co.: L. S. Smith 2814 (Du--312449). San Luis Obispo Co.: Nobs & Smith 868, in part (Du--415536, Du--415605). San Mateo Co.: Overlander 197 (Du--371701). Santa Barbara Co.: Breedlove 4164 (Du--500660); DeWolf 802 (Ms--34323, Ms--34324). Santa Clara Co.: J. H. Thomas 4365 (Du--385228), 8132 (Du--418410). Santa Cruz Co.: J. H. Thomas 2470 (Du--415675), 3219 (Du--415704), 3290 (Du--388809). Sonoma Co.: A. A. Heller 5785 (Ms--30812). Tehama Co.: Munz 16963 (Du--366541). CULTIVATED: Germany: Herb. F. J. Young s.n. (Ws).

VERBENA LILACINA Greene

Additional bibliography: Moldenke, Phytologia 14: 287. 1967.

Moran describes this plant as a bushy herb, 1 m. tall, or rounded shrub, rather scarce in arroyos, at 50 to 1100 meters altitude. The corollas are described as "lavender" on Moran 8195 & 10669.

Additional citations: MEXICO: Baja California: R. V. Moran 8195 (Du--502192). CEDROS ISLAND: R. V. Moran 10669 (Du--498467), 10698 (Du--498463).

VERBENA LINDMANII Briq.

Additional bibliography: Moldenke, Phytologia 14: 287. 1967.

Additional citations: BRAZIL: Rio Grande do Sul: O. Camargo 2683 [Herb. Anchieta 61584] (B); Rambo 40398 (B), 57071 (B).

VERBENA LITORALIS H.B.K., Nov. Gen. & Sp. Pl., ed. folio, 2: 223, pl. 137. 1817.

Additional & emended bibliography: H.B.K., Nov. Gen. & Sp. Pl., ed. folio, 2: 223, pl. 137 (1817), ed. quart., 2: pl. 137 (1817), and ed. quart., 2: 276. 1818; Hook. f., Trans. Linn. Soc. Lond. Bot. 20: 195. 1847; N. J. Anderss., Vet. Akad. Handl. Stockh. 1853: 200. 1854; N. J. Anderss., Galap. Veg. 81. 1859; Hieron., Bol. Acad. Nat. Cienc. Córdoba 4: 408. 1881; Robinson & Greerm., Am. Journ. Sci. 150 [ser. 3, 50]: 147. 1895; Barnhart, Bull. Torrey Bot. Club 29: 590. 1902; B. L. Robinson, Proc. Am. Acad. 38:

197. 1902; H. L. Mason, Fl. Marshes Calif. 676. 1957; H. St. John, Nomencl. Fl. 70. 1958; Meyer & Weyrauch, Guia Excurs. Biol. Tucum. 64 & 123. 1966; Shinners, Sida 2: 393 & 448. 1966; Reese & Thieret, Castanea 31: 274. 1966; Moldenke, Résumé Suppl. 15: 2-5 & 24. 1967; Moldenke, Phytologia 14: 287-288, 292, & 293 (1967), 15: 486 (1968), and 16: 53. 1968.

Additional & emended illustrations: H.B.K., Nov. Gen. & Sp. Pl., ed. folio, 2: pl. 137 [in color] (1817) and ed. quart., pl. 137. 1817.

The dates for the H.B.K. references given above are taken from the researches of Barnhart (1902). The color illustration labeled V. "littoralis" by Rickett (1967) is actually V. brasiliensis Vell.

Breedlove found this species growing on slopes and steep slopes with Quercus in Chiapas. Reese & Thieret (1966) record it from the Five Islands of Louisiana. Solbrig, Moore, & Walker found it to be "common in overgrazed areas" on Masafuera. The Andrew Moldenkes state that it is an "abundant weed in agricultural areas" in San Luis Potosí.

The corollas are described as "blue" on Belshaw 3054, Breedlove 10855 & 12184, and Moldenke & Moldenke 2262, "purplish-blue" on Wiggins & Porter 423, and "lavender-purple" on J. T. Howell 8882.

The Venturi 2814, distributed as V. littoralis, is actually V. bonariensis L.; O'Donell 95 [Herb. Inst. Miguel Lillo 36218] is V. brasiliensis Vell.; Rambo, Herb. Anchieta 45339 is V. minutiflora Briq. [not V. montevidensis Spreng., as previously reported]; O. Camargo 621 & 959, Herb. Anchieta 59429, 60406, & 60703, and Machado s.n. are V. montevidensis Spreng., while C. R. Orcutt s.n. [Mts., Northern Lower California, 7-8-1885] is V. neomexicana (A. Gray) Small. The Schimpff 132, cited below, was previously cited as V. glabrata H.B.K. in error.

It is possible that Bentham's var. glabrior belongs in the synonymy of V. glabrata H.B.K. Robinson (1902) gives 1817 as the original date of publication of the name, Verbena littoralis, and in this, according to Barnhart (1902), he seems to be correct if the folio edition of the work is cited, not the quarto edition. Robinson also cites the following specimens not as yet seen by me: GALAPAGOS ISLANDS: Charles: Baur 172 (G); C. Darwin s.n.. Chatham: N. J. Andersson s.n. (G).

The H. H. Rusby 911, cited as V. littoralis in Lilloa 12: 155, is actually the type collection of V. bangiana Moldenke. Ruiz Huidobro 4275 looks much like V. montevidensis Spreng.

Mason (1957) tells us that V. littoralis is similar to V. bonariensis, but has leaves that taper to the base and are sessile or short-petiolate, but not subcordate nor clasping [characters that apply about equally well to V. brasiliensis Vell.], and that it is infrequent along sloughs and ditches in Amador County and on Bouldin Island, California.

Additional citations: MEXICO: Chiapas: Breedlove 12184 (Mi),

19855 (Mi); Moldenke & Moldenke 2262 (Rf). Michoacán: A. R. Moldenke 1682 (Ac). Oaxaca: Pringle 4877 (Ms—30792). San Luis Potosí: Moldenke & Moldenke 2151 (Rf). Veracruz: Moldenke & Moldenke 2230 (Ac). GUATEMALA: Alta Verapaz: Molina R. & Molina 11964 (N). VENEZUELA: Federal District: Alston 5430 (N). GALAPAGOS ISLANDS: Albemarle: J. T. Howell 8959 (Gg—462957). Charles: J. T. Howell 8882 (Gg—462955, Gg—462956); Wiggins & Porter 423 (Rf). Chatham: Schimpff 132 (N). PERU: Huánuco: Belshaw 3054 (Rf). BOLIVIA: Santa Cruz: Peredo s.n. [23-IV-1946] (Ms—34306). PARAGUAY: Morong 1204 (Ws). JUAN FERNANDEZ ISLANDS: Masafuera: Solbrig, Moore, & Walker 3664 (S). ARGENTINA: Corrientes: Ruiz Huidobro 4275 (Ws). POLYNESIA: HAWAIIAN ISLANDS: Oahu: A. A. Heller 2046 (Ms—30760).

VERBENA LITORALIS var. CARACASANA (H.B.K.) Briq.

Emended synonymy: Verbena caracasana H.B.K., Nov. Gen. & Sp. Pl., ed. folio, 2: 223. 1817.

Additional & emended bibliography: H.B.K., Nov. Gen. & Sp. Pl., ed. folio, 2: 223 (1817) and ed. quart., 2: 275--276. 1818; Barnhart, Bull. Yorrey Bot. Club 29: 590. 1902; Moldenke, Phytologia 11: 470. 1965.

It should be noted here that the H.B.K. reference dates given above have been authenticated by the work of Barnhart (1902).

VERBENA LOBATA Vell.

Additional bibliography: Moldenke, Phytologia 13: 252. 1966.

Additional citations: BRAZIL: Rio Grande do Sul: O. Camargo 2297 [Herb. Anchieta 61817] (B); Rambo 51505 (B), 56821 (B); Sehnem 5449 (B). Santa Catarina: Rambo 60070 (B).

VERBENA LOBATA var. HIRSUTA Moldenke

Additional bibliography: Moldenke, Phytologia 11: 470. 1965.

Additional citations: BRAZIL: Paraná: Hatschbach 14898 (Rf).

VERBENA LOBATA var. SESSILIS Moldenke

Additional bibliography: Moldenke, Phytologia 10: 83. 1964.

Additional citations: BRAZIL: Paraná: Hatschbach 14883 (Rf).

VERBENA MACDOUGALII Heller

Additional bibliography: Holmgren & Reveal, U. S. Forest Serv. Res. Paper INT.32: [Checklist Vasc. Fl. Intermont. Reg.] 91. 1966; Moldenke, Phytologia 14: 289. 1967.

Weber calls this a "common roadside plant", while Ferris refers to it as "weedy, on yellow pine - oak covered slopes".

Additional citations: COLORADO: Conejos Co.: W. A. Weber 7865a (Du—353355). NEW MEXICO: Lincoln Co.: Wooton 208 (Ms—30816). San Miguel Co.: R. J. Ferris 11521 (Du—322070). ARIZONA: Coconino Co.: MacDougal 249 (Ms—30795—isotype).

VERBENA MACROSPERMA Speg.

Additional bibliography: Anon., U. S. Dept. Agr. Bot. Subj. Index 15: 14361. 1958; Moldenke, Phytologia 14: 289. 1967.

VERBENA MARITIMA Small

Additional bibliography: Moldenke, Phytologia 14: 289. 1967.

Additional citations: FLORIDA: Brevard Co.: Curtiss 1963* (Ms-30754). Broward Co.: H. N. Moldenke 24051 (Ac, B, Ms, Rf, Ws).

VERBENA MARRUBIOIDES Cham.

Additional bibliography: Moldenke, Phytologia 14: 289. 1967.

The Rambo 57298, distributed as V. marrubioides, is actually V. humifusa Cham.

Additional citations: BRAZIL: Paraná: Hatschbach 12843 (Ac); L. S. Smith Bras.63 (Ac). Rio Grande do Sul: O. Camargo 1836 [Herb. Anchieta 62095] (B); Rambo 44156 (B).

VERBENA MEGAPOTAMICA Spreng.

Additional bibliography: Teague, Anal. Mus. Hist. Nat. Montev., ser. 2, 7 (4): 44. 1965; Moldenke, Phytologia 14: 289. 1967.

Teague (1965) refers to this species as a common ruderal plant, spreading among crops, but not too troublesome in Paraguay, and records the common names "margarita del campo" and "yvotf la novia", citing his nos. 52 & 310.

The Rambo, Herb. Anchieta 54947, distributed as V. megapotamica and so cited by Rambo (1965), is actually V. pulchra Moldenke, while his 59244 is V. phlogiflora Cham.

Additional citations: BRAZIL: Rio Grande do Sul: Rambo, Herb. Anchieta 60153 (B).

VERBENA MENDOCINA R. A. Phil.

Additional & emended bibliography: Hieron., Bol. Acad. Nac. Cienc. Córdoba 4: [Sert. Sanjuan.] 68. 1881; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 2: 1179. 1895; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 451 (1906) and pr. 2, 451. 1941; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 2, 2: 1179. 1946; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 3, 451. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 3, 2: 1179. 1960; Hocking, Excerpt. Bot. A.10: 270. 1966; Moldenke, Phytologia 14: 289. 1967.

VERBENA MENTHAEFOLIA Benth.

Additional bibliography: Benth., Bot. Voy. Sulphur 153. 1846; Munz, Calif. Spring Wildfls. 60, fig. 105. 1961; Moldenke, Phytologia 14: 289 (1967) and 15: 495. 1968.

Illustrations: Munz, Calif. Spring Wildfls. fig. 105. 1961.

Recent collectors have found this species growing on the upper margins of a beach with Eclipta alba, Panicum arizonicum, and Jouvea pilosa, and under shrubs on a tableland heavily covered with shrubs, as well as on grassy valley floors. Breedlove refers to it as a suffrutescent perennial. The Andrew Moldenkes describe it as

an "abundant weed in agriculturally disturbed areas" in Querétaro.

The corollas are described as "blue" on Breedlove 1498 & 14430. Part of the inflorescence is galled on A. R. Moldenke 1799.

Additional citations: MEXICO: Baja California: Wiggins & Wiggins 18075 (Du--507539). Chiapas: Breedlove 14430 (Ac). Coahuila: Edw. Palmer 1042 (Ms--30804). Jalisco: A. R. Moldenke 1652 (Rf), 1706 (Ac). Michoacán: A. R. Moldenke 1761 (Rf), 1763 (Rf), 1765a (Ac), 1785 (Ac), 1786 (Rf), 1799 (Ac). Querétaro: Moldenke & Moldenke 2158 (Rf). Sonora: Breedlove 1498 (Du--496235); A. R. Moldenke 1547 (Rf).

VERBENA MICROPHYLLA H.B.K., Nov. Gen. & Sp. Pl., ed. folio, 2:

220, pl. 133. 1817 [not V. microphylla R., A. Phil., 1857].

Additional & emended bibliography: H.B.K., Nov. Gen. & Sp. Pl., ed. folio, 2: 220, pl. 133 (1817), ed. quart., 2: pl. 133 (1817), and ed. quart., 2: 272--273. 1818; Hieron., Bol. Acad. Nac. Cienc. Córdoba 4: [Sert. Sanjuan.] 68--69. 1881; Barnhart, Bull. Torrey Bot. Club 29: 590. 1902; Meyer & Weyrauch, Guía Excurs. Biol. Tucum. 32 & 123. 1966; Moldenke, Phytologia 14: 289--290. 1967.

Additional & emended illustrations: H.B.K., Nov. Gen. & Sp. Pl., ed. folio, 2: pl. 133 [in color] (1817) and ed. quart., 2: pl. 133. 1817.

Hieronymus (1881) describes two unnamed forms of this species: (a) foliis parce strigoso-hispidulis, (b) foliis dense strigoso-hispidulis, canescentibus. The latter he regards as Philippi's V. sulfurea var. canescens and the former as Echegaray's V. sulfurea. It may well be that he confused this taxon with V. microphylla R. A. Phil., which is a synonym of Junellia minutifolia (R. A. Phil.) Moldenke, but the synonyms which he cites certainly belong to neither of these taxa. Verbena sulphurea D. Don is entirely different.

It should be noted here that the H.B.K. reference dates given above have been authenticated by consultation of Barnhart's (1902) research on the subject.

VERBENA MINUTIFLORA Briq.

Additional bibliography: Moldenke, Phytologia 14: 290. 1967.

Herbarium material of this plant has been misidentified and distributed under the name V. littoralis H.B.K. The Rambo 45339, cited below, was previously cited by me in error as V. montevidensis Spreng. On the other hand, the Rambo 51616 previously cited as V. minutiflora is actually V. montevidensis.

Additional citations: BRAZIL: Rio Grande do Sul: Rambo, Herb. Anchieta 45339 (Du--374477), 54985 (B).

xVERBENA MOECHINA Moldenke

Additional bibliography: Moldenke, Phytologia 14: 290. 1967;

Moldenke, *Résumé Suppl.* 15: 2. 1967.

Additional citations: ILLINOIS: Saint Clair Co.: Eggert s.n. [Bluffs in Illinois, 12 August 1875] (Ms—30841, Ms—30842). ARKANSAS: Washington Co.: J. T. Buchholz s.n. [June 27, 1923] (Ac, Ws).

VERBENA MONTEVIDENSIS Spreng.

Additional bibliography: Moldenke, *Résumé Suppl.* 15: 2. 1967; Moldenke, *Phytologia* 14: 290 (1967) and 16: 52 & 55. 1968.

Ewan describes this plant as "glabrous throughout", with pale-violet flowers, growing on river overflow lands, flowering and fruiting in June, in Louisiana. The corolla is described as "blue" on Montes 15556.

Recent collectors have found V. montevidensis growing in shrubby marshes, and material has been misidentified and distributed as V. gracilescens (Cham.) Herter. The Rambo 45339, cited by me as this species in a previous publication, seems to be V. minutiflora Briq., instead. On the other hand, the Rambo, Herb. Anchieta 51616, cited below, was previously incorrectly cited by me as V. minutiflora. The Rambo, Herb. Anchieta 54985, cited by Rambo (1965) and so distributed by him, is actually V. minutiflora, while 60193 is V. reitzii Moldenke.

Additional citations: LOUISIANA: Avoyelles Par.: Ewan 19083 (Rf). Franklin Par.: Ewan 19152 (Ac). BRAZIL: Paraná: Saito 288 (Rf). Rio Grande do Sul: O. Camargo 621 [Herb. Anchieta 60406] (B), 959 [Herb. Anchieta 59429] (B), 2480 [Herb. Anchieta 62791] (B); Machado s.n. [Herb. Anchieta 60703] (B); Pivetta 966 [Herb. Anchieta 59154] (B); Rambo, Herb. Anchieta 49723 (Du—376609), 51616 (W—2102102). URUGUAY: Herter 269 [Herb. Herter 81713] (Ws). ARGENTINA: Buenos Aires: Krapovickas 2678 (Ms—34303). Misiónes: Montes 15556 (Du—411354).

VERBENA MULTIGLANDULOSA Moldenke

Additional bibliography: Moldenke, *Phytologia* 13: 253. 1966; Moldenke, *Biol. Abstr.* 47: 6794. 1966; Hocking, *Excerpt. Bot. A.* 11: 103. 1967.

VERBENA NEOMEXICANA (A. Gray) Small

Additional & emended bibliography: A. Gray, *Syn. Fl. N. Am.*, ed. 1, 2 (1): 337 (1878) and ed. 2, 2 (1): 337. 1886; Moldenke, *Phytologia* 14: 290 (1967) and 15: 494. 1968.

Chambers encountered this plant growing on rocky volcanic slopes in Baja California. Material has been misidentified and distributed in herbaria under the names V. littoralis H.B.K. and V. robusta Greene. On the other hand, the Nelson & Nelson 5129 and J. H. Thomas 8185, distributed as typical V. neomexicana, are actually var. hirtella Perry, while Nelson & Nelson 5138 is var. xylopoda Perry.

It should be pointed out that both Gray and Small wrote this spe-

cific epithet as "neo-mexicana", and so this is the orthography which should perhaps be adopted.

Additional citations: TEXAS: Jeff Davis Co.: Tharp & Janszen 49-1144 (Ms--34311). NEW MEXICO: Socorro Co.: O. B. Metcalfe 612 (Ms--30796). MEXICO: Baja California: K. L. Chambers 728 (Du--406350); C. R. Orcutt s.n. [Mts., Northern Lower California, 7-8-1885] (Ms--30793, Ms--30794).

VERBENA NEOMEXICANA var. HIRTELLA Perry

Additional bibliography: Moldenke, Phytologia 14: 290 (1967) and 15: 494. 1968.

Thomas found this plant growing in a rocky channel leading into a dry lake in Baja California. The corollas are said to have been "lavender" on J. H. Thomas 8185.

The Tharp & Janszen 49-1144, distributed as this variety, is actually typical V. neomexicana (A. Gray) Small, while the M. E. Jones 28296, cited by me in a previous installment of these notes, proves on closer examination to be atypical V. canescens var. roemeriana (Scheele) Perry.

Additional citations: TEXAS: Brewster Co.: Nelson & Nelson 5129 (Du--331386). MEXICO: Baja California: J. H. Thomas 8185 (Du--419817).

VERBENA NEOMEXICANA var. XYLOPODA Perry

Additional bibliography: Moldenke, Phytologia 14: 290. 1967.

The corollas on Moldenke & Moldenke 2105 are described by the collectors as "uniform blue".

Additional citations: TEXAS: Webb Co.: Nelson & Nelson 5138 (Du--331412). ARIZONA: Santa Cruz Co.: Pringle s.n. [Santa Rita Mts., May 11, 1884] (Ms--30833). MEXICO: Chihuahua: Moldenke & Moldenke 2105 (Rf); Pringle 270 (Ms--30781). San Luis Potosí: Breedlove 15479 (Ac).

VERBENA OFFICINALIS L.

Additional & emended bibliography: H.B.K., Nov. Gen. & Sp. Pl., ed. folio, 2: 222 (1817) and ed. quart., 2: 274. 1818; Hook. f., Trans. Linn. Soc. Lond. Bot. 20: 194. 1847; N. J. Anderss., Vet. Akad. Handl. Stockh. 1853: 199. 1854; Schnitzl., Icon. Fam. Nat. Reg. Veg. 137. 1856; N. J. Anderss., Galap. Veg. 81. 1859; Prior, Pop. Names Brit. Pl. 206. 1863; A. Gray, Syn. Fl. N. Am., ed. 1, 2 (1): 335. 1873; Boiss., Fl. Orient. 4: 534. 1879; Stapf, Denkschr. Math.-nat. Class. K. Akad. Wiss. Wien 50 [Bot. Ergebn. Polak. Exped. 1]: 35. 1885; A. Gray, Syn. Fl. N. Am., ed. 2, 2 (1): 335. 1886; H. Fischer, Beitr. Vergl. Morphol. Pollenk. 46. 1890; Bagnall, Fl. Warwicksh. 200--201 & 518. 1891; B. L. Robinson, Proc. Am. Acad. 38: 197. 1902; Barnhart, Bull. Torrey Bot. Club 29: 590. 1902; Prain, Beng. Pl., ed. 1, 2: 826. 1903; Borrn., Beih. Bot. Centralbl. 22 (2): 117. 1907; Bourdier, Journ. Pharm. Chim. 1908: [6], 27, 49, 101, & Chem. Centralbl. 1: 955. 1908; Duthie, Fl. Up-

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Foster (1966) reminds us that this plant was considered a good tonic in the olden days, while Berrall (1966) tells us that Pliny, the Elder, mentioned verbena, that Victorian gardeners used it, and that 19th Century China Clipper ships brought back verbenas. Polunin & Huxley (1966) inform us that it was one of the few herbs considered by Hippocrates to be all-curing. These same authors describe the species as circum-Mediterranean, inhabiting tracksides, waste places, and screes.

Grieve (1931) tells us that Verbena officinalis was first discovered, according to legend, on the Mount of Calvary where it staunched the wounds of the crucified Jesus. Hence it is crossed and blessed with a commemorative verse when it is gathered. It actually contains a peculiar tannin with many medical uses.

Szafer (1966) says that the species is found in Poland in the "ruderal association of Order Onopordetalia Class Ruderato-Secalinetea". Ary, Gregort, & Nicholson (1960) report it as found in waste places in England and Wales, flowering there from July to September, and once used in love potions. It has been found growing in chalky waste ground in England and in clearings in Thailand.

Quinn (1939) tells us that Verbena was sacred to the Romans and Greeks, the origin of the worship being lost in antiquity unless literally interpreted as originating from the tears of an angry Juno, possibly in reference to Callisto at the time when the gnashing of her teeth was not sufficient indication of her rage and tears of anger flowed. It seems that Callisto was very beautiful and was befriended by Juno and allowed to stay around the house for much of the time. As was probably inevitable, Jove started to pay too much attention to her and this enraged Juno so much that she turned Callisto into a bear with the admonition "Now get down on all fours and see if my husband will notice you". While eating berries in the forest a young hunter approached with his spear and was recognized by Callisto, now a bear, as her son. Jove snatched both the bear and the hunter into the sky and they now form the constellations of the Great Bear and the Little Bear.

Juno was enraged to see that Callisto was thus placed in the heavens. She sought the aid of Oceanus. Her tears from much weeping soaked into the ground and vervain sprang up. At her request, Oceanus promised Juno that, as punishment, Callisto would never be able to rest in the water, nor would her son; therefore the Great Bear and the Little Bear constellations even today never sink into the sea as do the other stars, the sun, and the moon!

This legend appears to be the origin of the name "Juno's tears" for the plant.

Dioscorides reports that the leaves of vervain were used to cleanse tables preparatory to festivities to honor Zeus. Its leaves were worn as amulets. Pliny tells us that altars were strewn with vervain during various pagan rites. The Druids of Britain and Gaul regarded vervain as reverentially as they did their sacred oaks partly because they saw a similarity in leaf form. Before gathering vervain, honey and honeycombs were poured on the earth as a recompense for depriving it of so precious a gift.

Vervain was used in religious ceremonies and in medicine, and was never gathered when the sun or moon were visible, nor ever touched by human hands. Iron instruments were used for digging the plants and strings were used for plucking them. The oldest Druids then wrapped the plants and carried them to the place of worship.

Interest in vervain died down with the passing of druidism, but was revived when the Crusaders returned from the Holy Land with great new tales about it. One such tale stated that the vervain grew first on Mount Calvary, having sprung up as the nails were driven into Jesus' hands. The Crusaders also told of witnessing miraculous cures effected by vervain. Because of these tales, vervain soon replaced rue and yarrow. It was thought that a man could obtain magic powers by bathing in undiluted vervain juice. Among these powers was supposed to be the ability to see into the future. He would also be given instant fulfillment of all his wishes, would be protected from disease, and would have the power of enchantment.

St. Neot, the Pygmy, a holy hermit monk in Cornwall 200 years before the Crusades, is said to have cleared some land to sow grain. Townspeople gave him a pair of oxen which were so impressed by his holiness that they slipped into their yokes and plowed his land voluntarily. A thief then stole these wonderful oxen. Two stags then appeared to take on the yokes and do the plowing. This greatly impressed the thief, who then returned the stolen oxen. Where the oxen had plowed previously oats sprang up, but where the stags had plowed vervain appeared. St. Neot, believing that the vervain must have been sent from heaven for some good purpose, brewed the leaves and made from them a febrifuge and healing poultice. The people of Cornwall even today ascribe these virtues to the vervain.

The corollas are described as "lilac" on Raven & Cannon 16432. The species is recorded from James Island in the Galapagos by Hooker (1847), Andersson (1854, 1859), and Robinson (1902) on the basis of a C. Darwin collection not as yet seen by me for verification. Hartley (1966) records it from "just outside the 'Driftless Area' in Sauk Co.", Wisconsin. Kaul & Zutshi (1966) report it as very rare in open grassland in Srinagar, India.

Zukowski (1967) records the Polish name "werbena lekarska". Additional common names are "holy-plant", "Mercury's blood", "pigeon-grass", "purvain", "setywall", "verbain", & "wild-hyssop".